

REMARKS

The Office Action included a rejection of one claim under section 112, paragraph 2 and a rejection, under section 102(b), of claims 1-8 and 12-15 and rejections, under section 103, of claims 9-11 and 16.

In this response, claims 1, 6, 11, 13 and 16 have been amended, and the withdrawn claims 17-53 have been canceled, and no new claims have been added.

Section 112, paragraph 2 rejection

Applicant believes the Examiner intended to reject claim 11 under section 112(2) rather than claim 10. In any event, Applicant believes the rejection is improper and that there is no indefiniteness in claim 11. However, Applicant has amended claim 11, without agreeing with the Examiner's position, in order to move prosecution forward on claim 11. The rejection under section 112(2) should be withdrawn.

Section 102 rejection

The rejection under section 102 of claims 1-8 and 12-15 should be reversed as the Kuesters reference (US 2002/0091017) does not anticipate these claims.

Kuesters describes a golf ball locator system which includes a golf ball, containing a transmitter and a power source, and at least two receivers, located on the golf course, to detect signals from the golf ball and to locate the golf ball from the signals. Each receiver determines the direction from which the signal came and the distance to the origin of the signal, which is the ball. The data from the two receivers is processed using triangulation calculations to determine the location of the ball. The Examiner appears to be taking the position that the wires in Kuesters, which convey signals to the IR emitting diodes, are antennas and that each of the wires

are patterned as radial transmission lines and that at least two of those wires are arranged substantially orthogonally relative to each other.

Kuesters' wires are NOT antennas--there is no need in Kuesters for such antennas because Kuesters' system uses 30 infrared (IR) light emitting diodes (LED) to transmit signals to Kuesters' receivers on the golf course. In other words, the 30 IR LEDs transmit signals, after being driven to do so by the wires, to the receivers. The LEDs emit IR light and the receivers detect this IR light. The wires merely connect the IR LEDs, at the ball's periphery, to the circuitry that drives the LEDs from inside the ball. The wires are not described in Kuesters as antennas and it would be incorrect and improper to refer to them as antennas. Furthermore, the wires are NOT patterned as radial transmission lines. The term "radial transmission line" is a circuit element in radiofrequency circuits. A radial transmission line generates electromagnetic waves which are guided radially away from the source when excited at the source. In the case of claim 1, the source is the electrical component (e.g. a diode) which generates the waves that are guided away from the source. A radial transmission line is a portion of a circle in a plane, and the source is at the center. The width of a radial transmission line normally varies with the length--for example, the width begins small and grows larger as the waves are guided away from the source. The wires in Kuesters are NOT antennas, and they are also not patterned as radial transmission lines. For at least these two reasons, the rejection of claims 1-8 and 12-15 should be withdrawn.

Claim 1 requires that there be a first tag with a first antenna patterned as a first radial transmission line and a second tag with a second antenna patterned as a second radial transmission line. Kuesters has **no antennas** in the ball shown in Figures 2A-2C of Kuesters; the 30 IR LEDs act as signal emitters, and hence there is no need for an RF antenna to receive or send RF signals. Further, Kuesters fails to disclose antennas patterned as radial transmission

lines. There is no variation in width in the antenna as the signal propagates from the source. Because Kuesters fails to disclose at least two limitations of claim 1, Kuesters fails to anticipate claims 1-8 and 12-15.

The dependent claims are not anticipated by Kuesters for at least the reasons given for claim 1 and for other reasons, such as those explained now for at least certain dependent claims.

Claim 2 includes a limitation that the first tag and the second tag be substantially independent electrically. Kuesters' circuit does not drive the LEDs independently, and in fact Kuesters' purpose teaches away from driving the LEDs independently. Although there are independent connection wires (which are not antennas) to each LED, they are driven simultaneously from the same driver circuit--which is effectively required given Kuesters' triangulation technique. The intent of Kuesters' circuit is to turn on all of the IR LEDs at the same time so that at least two IR light sources are received by the at least two receivers. Claim 4 requires that a width of the first and second antennas varies with a length of the first and second antennas. This feature is clearly absent from Kuesters and hence this rejection should be withdrawn.

Claim 4 includes a limitation that a width of the first and the second antenna vary either substantially linearly or substantially exponentially with a length of the first and the second antennas. As noted above, this is a feature of an antenna which is patterned as a radial transmission line, and this feature is totally absent from Kuesters. Hence, claim 4 is not anticipated by Kuesters.

Claim 6 includes a limitation that the first and the second diodes are disposed in respective voids in the ball material. Kuesters fails to teach this limitation and therefore does not anticipate claim 6.

Claim 11 includes a limitation that the golf ball has high durability and complies with golf ball specifications. Applicant submits that Kuesters' ball will not have high durability; the complex structure (see Figures 2A-2C) will be a nightmare to fabricate and will likely be easily and quickly destroyed once the ball is used.

Claim 13 includes a limitation that the first diode is coupled to the first antenna through a first pair of compressible conductors and that the second diode is coupled to the second antenna through a second pair of compressible conductors. Kuesters has conductors which connect the IR LEDs to circuitry, in the middle of the ball, which drives the IR LEDs. Kuesters does not disclose a first diode coupled to a first antenna through a first pair of compressible conductors and does not disclose a second diode coupled to a second antenna through a second pair of compressible conductors. Thus, Kuesters does not anticipate claim 13.

Claim 14 includes a limitation that a first antenna includes a first inductive element and a second antenna includes a second inductive element. Kuesters fails to describe such inductive elements; there are no inductive elements in Kuesters and there are no antennas with inductive elements in Kuesters.

Section 103(a) rejections

Claims 9-10 were rejected under section 103(a) as being unpatentable over Kuesters in view of Rackley (US 4,742,357).

Claim 11 was rejected under section 103(a) as being unpatentable over Kuesters in view of Pirritano (US 6,620,057).

Claim 16 was rejected under section 103(a) as being unpatentable over Kuesters in view of Mayer (German Patent 8709503).

These three section 103(a) rejections should be withdrawn as they fail to present a prima facie case for obviousness because the combinations in the rejections fail to teach the claimed limitations which are missing from Kuesters. In other words, these combinations fail to teach the claimed limitation of two antennas (a first and a second antenna) patterned as radial transmission lines which are orthogonal to each other, each of the antennas being coupled to an electrical component. Each of the secondary references fail to cure the deficiencies of the Kuesters reference, and therefore these section 103(a) rejections should be withdrawn.

Conclusion

Applicant submits that all claims are allowable and hereby petitions for a one-month extension of time to respond to the pending Office Action. Please charge Deposit Account No. 02-2666 in the amount of \$120.00 for this extension. Furthermore, please charge any shortages and credit any overcharges to our Deposit Account No. 02-2666.

Respectfully submitted,

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